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**(54) SOLID CRYSTALLINE BORON NITRIDE RADICAL ULTRA HIGH PRESSURE SINTERED MATERIAL CUTTING TOOL SUPERIOR IN ABRASION RESISTANCE**

(57)Abstract:

PURPOSE: To provide a solid crystalline boron nitride radical ultra high pressure sintering material cutting tool exhibiting superior abrasion resistance in the case of high speed cutting.

CONSTITUTION: A solid crystalline boron nitride radical ultra high pressure sintered material cutting tool includes Ti carbide/nitride 20-40% in vol.% consisting of one or two or more kinds out of Ti carbide, nitride, and carbide nitride, tungsten carbide 0.1-2%, aluminum nitride 1-5%, titanium boride 3-7%, and aluminum oxide 5-15%. And the rest consists of solid crystalline boron nitride radical ultra high pressure sintered material whose composition consists of solid crystalline boron nitride and unavoidable impurity and combined phase has such a structure as dispersedly distributing tungsten carbide, aluminum nitride, titanium boride, and aluminum oxide having grain sizes of 0.1 $\mu$ m or less respectively on Ti carbide nitride base.

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